AMAZON REGION PROTECTED AREAS PROGRAM

The world's largest tropical forest conservation initiative

Arpa, a superlative program

The Brazilian Amazon is the world's largest tropical forest, spanning 4.1 million square kilometers. Though the Amazon straddles nine countries (totaling 7.5 million square kilometers), 60% of its total accounts for roughly 40% of Brazil's national territory. Everything about the biome is superlative: it holds the world's largest drainage basin, the most substantial concentration of the planet's biodiversity— 10% of all known species— landscapes that range from rainforest to pockets of Cerrado (the Brazilian savanna), and a whole gamut of ethnicities and peoples, including indigenous peoples, quilombolas, extractives settlers and riverine communities. The Brazilian Amazon is home to more than 25 million people.

All this plurality is supported by the **Amazon Region Protected Areas Program - ARPA**. Launched in 2002 by the Brazilian Government and coordinated by the Ministry of the Environment, it has the backing of national and international partners. The initiative's starting goal was to create new Protected Areas (PAs) and consolidate existing ones in the Brazilian Amazon to extend protection to 50 million hectares. This target was then raised to 60 million hectares, 15% of the Brazilian Amazon, a surface area twice the size of Germany.

The program reached its goal in 2017, the year in which ARPA, the world's largest tropical-forest protection initiative, celebrated its 15th anniversary, further proof of the efficacy of its management model.

ARPA is made possible by donations from Brazil and abroad, with its main supporters being the Global Environment Facility (The GEF), through the World Bank, the German Federal Ministry for Economic Cooperation and Development (BMZ), through the German Development Bank (KfW), the Amazon Fund, through the Brazilian National Development Bank (BNDES), the WWF Network, the Inter-American Development Bank (IDB), the Gordon and Betty Moore Foundation (GBMF), Anglo-American, Natura and O Boticário.

Studies indicate that ARPA's support increases PA-management effectiveness[1]. ARPA also makes an important contribution to mitigating climate change: between 2005 and 2015, ARPA-supported PAs avoided carbon emissions equivalent to the total amount generated annually through motorized transport worldwide[2]. ARPA is also a benchmark and model for similar conservation programs in the Peruvian and Colombian Amazon.

Funbio - The Brazilian Biodiversity Fund - manages ARPA's financial resources, all PA-related procurement and contracts, and the Transition Fund (TF), a long-term sinking fund designed to provide resources and incentives to PAs over a 25-year timeframe, until Brazil's Federal and State governments can take responsibility for 100% of the Program's PA consolidation and maintenance costs.

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ARPA Phases

ARPA was divided into three phases. During Phase One, 2003 to 2010, the Program created 23 million hectares and set up a Protected Areas Fund to ensure their financial viability and sustainability.
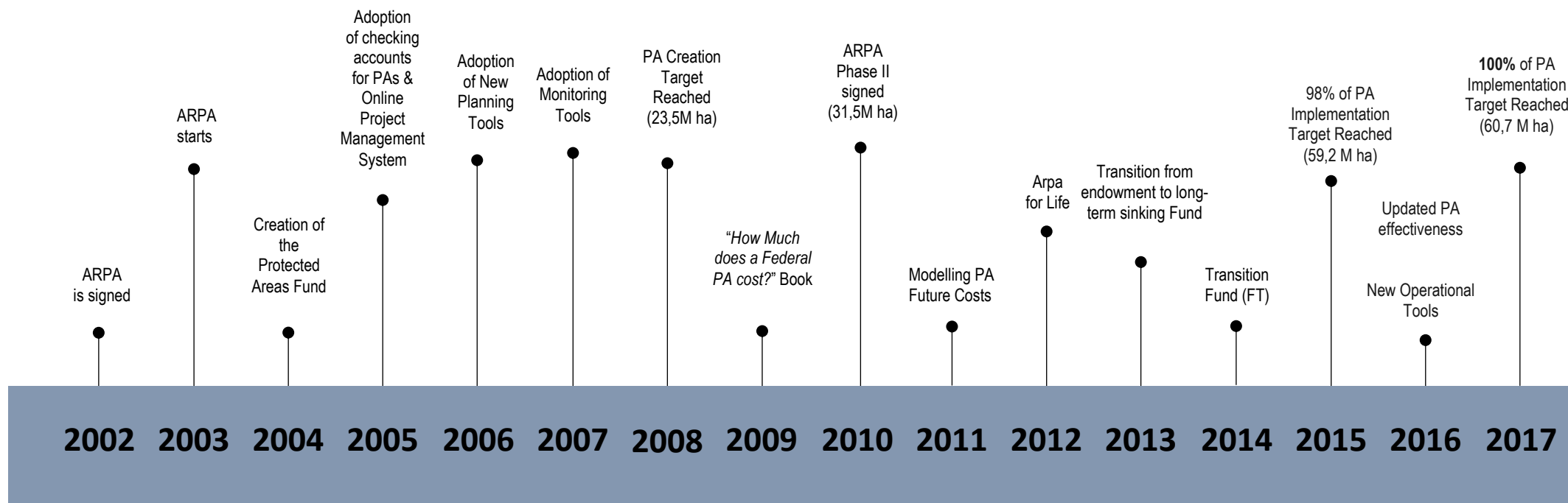
During Phase Two, 2010 to 2017, ARPA broadened its scope and channeled support into the consolidation of 95 PAs, covering a combined total of 52.2 million hectares. After strategic review of the Program, the Transition Fund (TF) came into effect in 2014, with an initial commitment of USD 123 million.

The Program's results testify to the efficacy of ARPA's management and model. In 2012, ARPA became the only environmental project to win the American Treasury's "**Development Impact Honors**" award. The Program was recognized for being "*especially* notable and impactful".
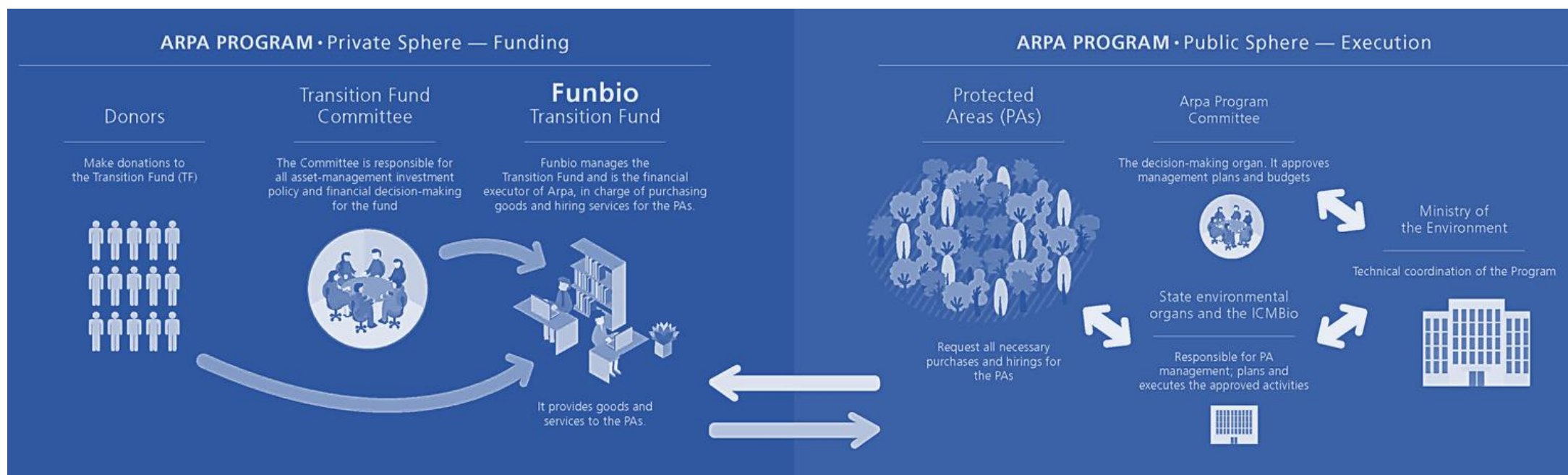
In 2017, the year the Program **turned 15**, the initiative **achieved 100% of its target**, with support extended to 117 PAs across an area of over 60 million hectares, exceeding its set goal.

That same year, ARPA was selected from among 150 projects worldwide as one of **8 key transformational change projects supported by the GEF**. The list included "*engagements that help achieve deep, systemic, and sustainable change with large-scale impact in an area of global environmental concern*".

4

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ARPA timeline

Timeline of events by year:

- **2002** — ARPA is signed
- **2003** — ARPA starts
- **2004** — Creation of the Protected Areas Fund
- **2005** — Adoption of checking accounts for PAs & Online Project Management System
- **2006** — Adoption of New Planning Tools
- **2007** — Adoption of Monitoring Tools
- **2008** — PA Creation Target Reached (23,5M ha)
- **2009** — "*How Much does a Federal PA cost?*" Book
- **2010** — ARPA Phase II signed (31,5M ha)
- **2011** — Modelling PA Future Costs
- **2012** — Arpa for Life
- **2013** — Transition from endowment to long-term sinking Fund
- **2014** — Transition Fund (FT)
- **2015** — 98% of PA Implementation Target Reached (59,2 M ha)
- **2016** — Updated PA effectiveness; New Operational Tools
- **2017** — **100%** of PA Implementation Target Reached (60,7 M ha)

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How the ARPA Transition Fund Works

In numbers

117

supported
Protected
Areas (PAs)

60,7

million
hectares under
protection

environmental
protection to

15%

of the Brazilian
Amazon -
an area twice the size of
Germany

72

federal PAs

45

state PAs

30

community
projects
supported

15

years

7

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Map of ARPA areas
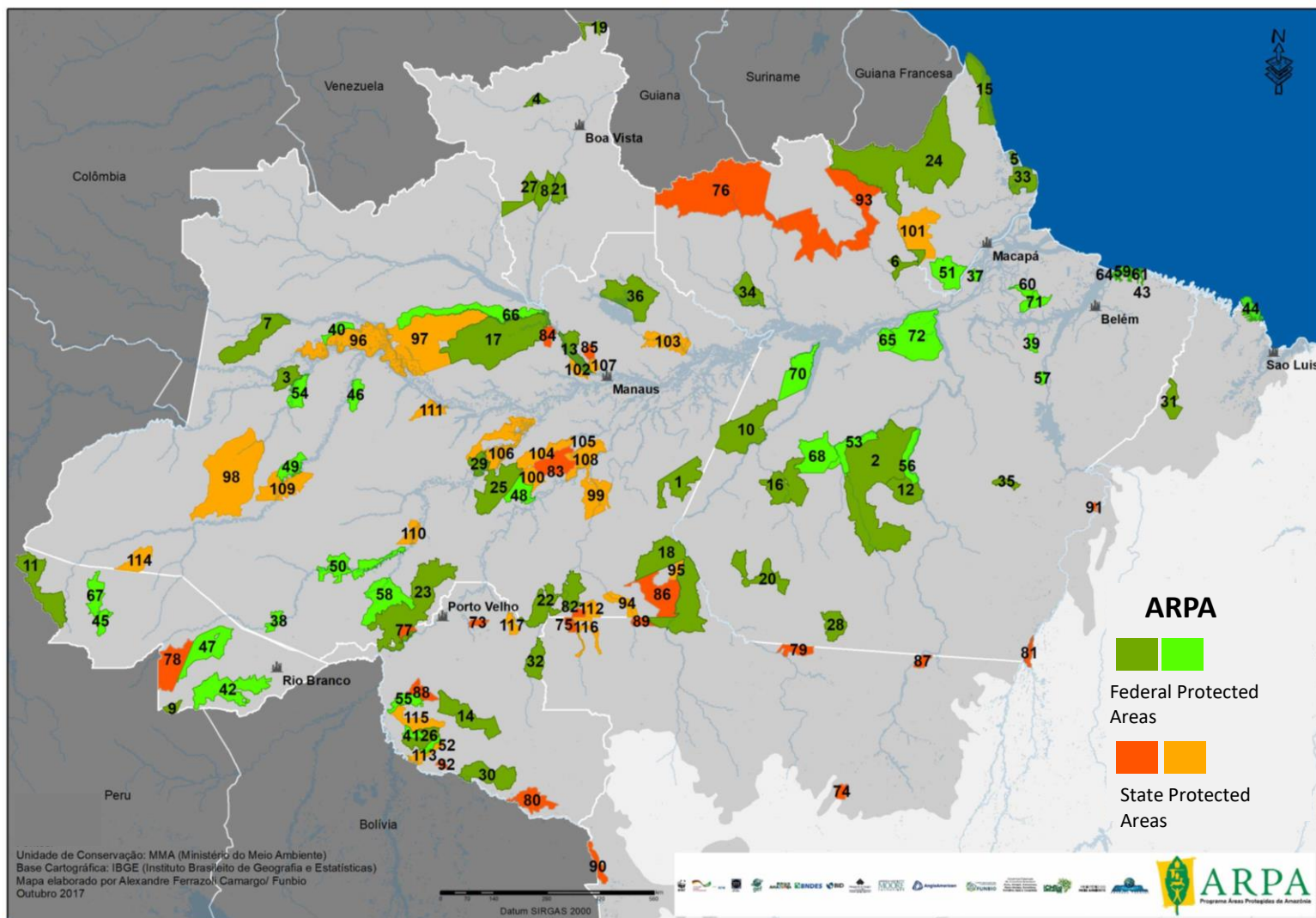
|			
1	Alto Maués Ecological Station	20	Rio Novo National Park
2	Terra do Meio Ecological Station	21	Viruá National Park
3	Jutaí-Solimões Ecological Station	22	Campos Amazônicos National Park
4	Maracá Ecological Station	23	Mapinguari National Park
5	Maracá-Jipioca Ecological Station	24	Montanhas do Tumucumaque National Park
6	Jari Ecological Station	25	Nascentes do Lago Jari National Park
7	Juami-Japurá Ecological Station	26	Serra da Cutia National Park
8	Niquiá Ecological Station	27	Serra da Mocidade National Park
9	Rio Acre Ecological Station	28	Nascentes da Serra Cachimbo Biological Reserve
10	Amazônia National Park	29	Abufari Biological Reserve
11	Serra do Divisor National Park	30	Guaporé Biological Reserve
12	Serra do Pardo National Park	31	Gurupi Biological Reserve
13	Anavilhanas National Park	32	Jaru Biological Reserve
14	Pacaás novos National Park	33	Lago Piratuba Biological Reserve
15	Cabo Orange National Park	34	Rio Trombetas Biological Reserve
16	Jamanxim National Park	35	Tapirapé Biological Reserve
17	Jaú National Park	36	Uatumã Biological Reserve
18	Juruena National Park	37	Itatupã-Baquiá Sustainable Development Reserve
19	Monte Roraima National Park	38	Arapixi Extractive Reserve

39	Arioca-Pruanã Extractive Reserve		60	Mapuá Extractive Reserve
40	Auati-Paraná Extractive Reserve		61	Maracanã Extractive Reserve
41	Barreiro das Antas Extractive Reserve		62	Marinha Cuinarana Extractive Reserve
42	Chico Mendes Extractive Reserve		63	Marinha Mestre Lucindo Extractive Reserve
43	Chocoaré-Mato Grosso Extractive Reserve		64	Marinha Mocapajuba Extractive Reserve
44	Cururupu Extractive Reserve		65	Renascer Extractive Reserve
45	Alto Tarauacá Extractive Reserve		66	Rio Unini Extractive Reserve
46	Baixo Juruá Extractive Reserve		67	Riozinho da Liberdade Extractive Reserve
47	Cazumbá-Iracema Extractive Reserve		68	Riozinho do Anfrãsio Extractive Reserve
48	Lago Capanã Grande Extractive Reserve		69	São João da Ponta Extractive Reserve
49	Médio Juruá Extractive Reserve		70	Tapajós-Arapiuns Extractive Reserve
50	Médio Purus Extractive Reserve		71	Terra Grande Pracuúba Extractive Reserve
51	Rio Cajari Extractive Reserve		72	Verde para Sempre Extractive Reserve
52	Rio Cautário Extractive Reserve		73	Samuel Ecological Station
53	Rio Iriri Extractive Reserve		74	Rio Ronuro Ecological Station
54	Rio Jutai Extractive Reserve		75	Rio Roosevelt Ecological Station
55	Rio Ouro Preto Extractive Reserve		76	Grão-Pará Ecological Station
56	Rio Xingu Extractive Reserve		77	Serra dos Três Irmãos Ecological Station
57	Ipaú-Anilzinho Extractive Reserve		78	Chandless State Park
58	Ituxi Extractive Reserve		79	Cristalino I e II State Park
59	Mãe Grande de Curuçá Extractive Reserve		80	Corumbiara State Park

81	Cantão State Park
82	Guariba State Park
83	Matupiri State Park
84	Rio Negro Setor Norte State Park
85	Rio Negro Setor Sul State Park
86	Sucunduri State Park
87	Xingu State Park
88	Guajara-Mirim State Park
89	Igarapés do Juruena State Park
90	Serra de Ricardo Franco State Park
91	Serra dos Martírios-Andorinhas State Park
92	Serra dos Reis State Park
93	Maicuru Biological Reserve
94	Aripuanã Sustainable Development Reserve
95	Bararati Sustainable Development Reserve
96	Mamirauá Sustainable Development Reserve
97	Amanã Sustainable Development Reserve
98	Cujubim Sustainable Development Reserve
99	Juma Sustainable Development Reserve
100	Rio Amapá Sustainable Development Reserve
101	Rio Iratapuru Sustainable Development Reserve
102	Rio Negro Sustainable Development Reserve
103	Uatumã Sustainable Development Reserve
104	Igapé-Açu Sustainable Development Reserve
105	Matupiri Sustainable Development Reserve
106	Piagaçu-Purus Sustainable Development Reserve
107	Puranga Conquista Sustainable Development Reserve
108	Rio Madeira Sustainable Development Reserve
109	Uacari Sustainable Development Reserve
110	Canutama Extractive Reserve
111	Catuá Ipixuna Extractive Reserve
112	Guariba Extractive Reserve
113	Rio Cautário (Est) Extractive Reserve
114	Rio Gregério Extractive Reserve
115	Rio Paccás Novos Extractive Reserve
116	Guariba-Roosevelt Extractive Reserve
117	Rio Preto Jacundá Extractive Reserve

Protected Areas supported by ARPA enjoyed a 17% increase in management effectiveness during the period 2005 to 2015.[1]

GENERAL EFFECTIVENESS

non-ARPA vs ARPA

without significant variation, $(p) = 0,1291$

with significant variation, $(p) = 0,0002$

2005 Average: non-ARPA 0,43 / ARPA 0,45
2010 Average: non-ARPA 0,43 / ARPA 0,53
2015 Average: non-ARPA 0,49 / ARPA 0,62

■ non-ARPA ■ ARPA

The RAPPAM (Rapid Assessment and Prioritization of Protected Area Management) methodology enables policymakers to evaluate the management effectiveness of individual or clustered Protected Areas by taking a snapshot of such components as planning, process management, supplies and results.

After a series of three RAPPAM applications over the period of ten years (2005 to 2015), it was possible to detect an increase in management effectiveness across ARPA-supported PAs.
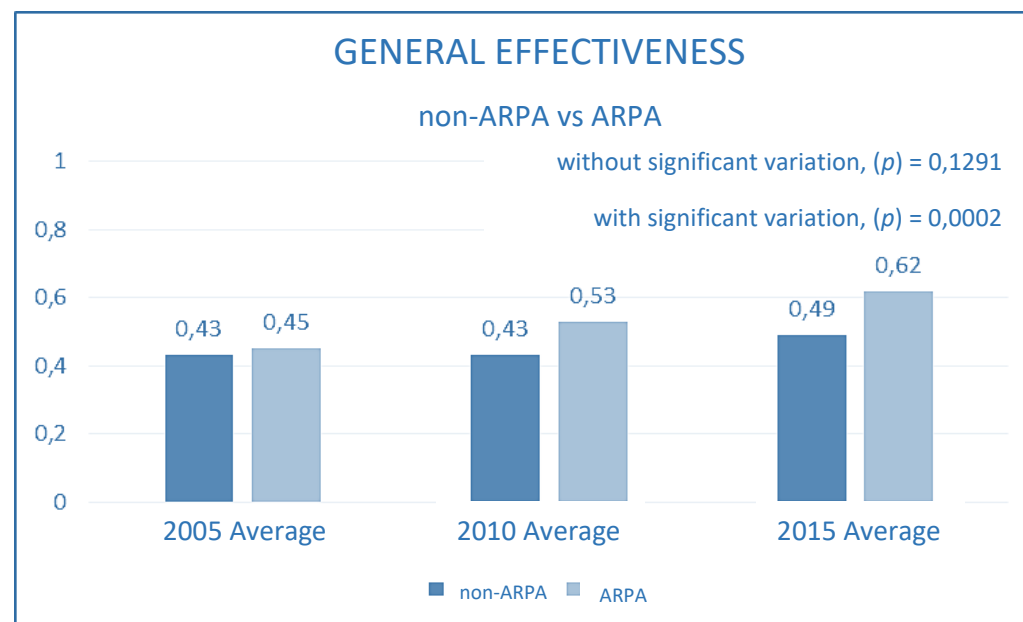
During this period, ARPA's PAs jumped from an effectiveness rate of 45% to one of 62%, a 1.4 times increase (17%). ARPA supported PAs have reached a high management effectiveness standard (> 60%). In comparative terms, during the same period, non-ARPA PAs in the Amazon obtained a lower rate of improvement, from 43% to only 49%, a 1.1 times increase (6%).

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ARPA and CO2 emission reduction

ARPA support has proved very effective in curtailing deforestation in the Amazon in comparison with protected areas not receiving the program's support, and this has contributed to significant reductions in CO2 emissions.

According to the study "Role of Amazon protected areas, especially the conservation units supported by ARPA, in reducing deforestation"[2], of the 1.5 Gigatons of carbon emissions avoided due to Amazon-region PAs during the period 2005 to 2015, 25% was in ARPA-supported territory.

This is equivalent to the total amount generated annually through motorized transport worldwide.

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Tapajós-Arapiuns Extractive Reserve

Created in 1998 and spanning over 600 thousand hectares, the Tapajós-Arapiuns Extractive Reserve straddles the municipalities of Santarém and Aveiro, in the west of the Amazonian state of Pará. The PA is managed by the Chico Mendes Biodiversity Conservation Institute - ICMBio and has been receiving ARPA support since 2016.

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Açaí, chestnut and rubber are among the products extracted at the Reserve, which is home to nearly five thousand families. The **Amazonian manatee** (*Trichechus inunguis*) is an endangered species protected there.

The main rivers crossing the PA are the Tapajós, which runs through the eastern flank of the area, and the Arapiuns, which cuts across the north.

Up until 2016, before ARPA support was introduced, accumulated deforestation in the Tapajós-Arapiuns Reserve reached 51,958 hectares, or 7.7% of its total area. [3]

Photo: ICMBio

The Tapajós-Arapiuns Extractive Reserve received support from ARPA's Transition Fund through the Protected Area Consolidation Benchmark.

ARPA sub-components, specifically the Protected Area Management Model and Community Integration, are among those lending support to the Reserve.
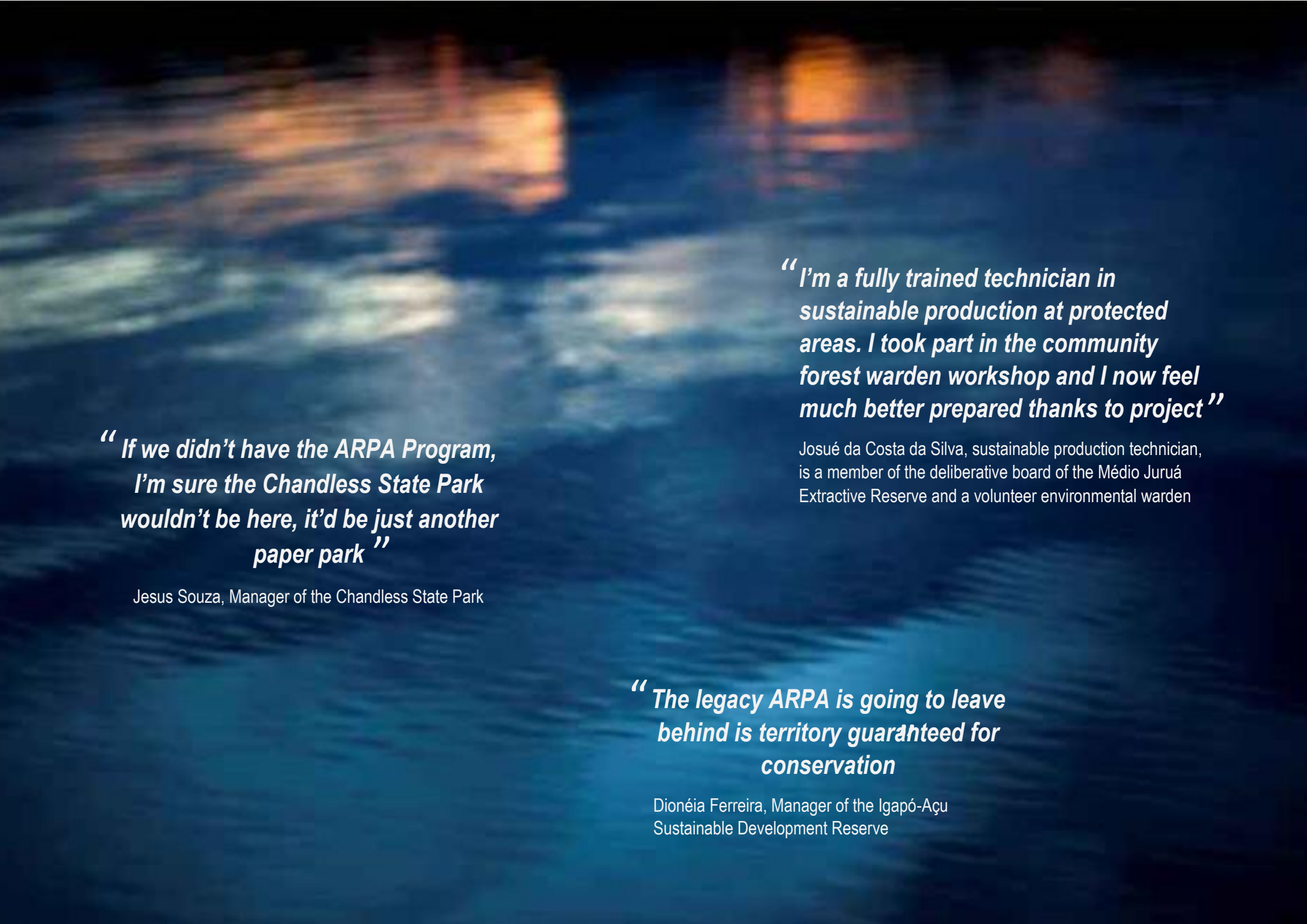
The first of these involves the implantation of innovative management models at Protected Areas, including integrated, shared and participative management, with a view to boosting efficiency in the protection of biodiversity, territorial management and resource use.

The second was designed to strengthen communities using or benefitting from ARPA's PAs by providing different lines of support to indigenous and non-indigenous communities that are tailored to the distinct forms of occupation found throughout the Amazon's PAs.

In the coming years, the Operational Plan devised by PA managers (2018-19) will provide support on the following themes:

- Community advice and support;

- Development and roll-out of the Protection Plan;

- Acquisition and maintenance of equipment (computers and other electronics, furniture, etc.)

- Maintenance of installations and facilities;

- Monitoring of biodiversity;

- Help in operationalizing PA routines.

The PA received over USD 200 thousand* in ARPA support.

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" I'm a fully trained technician in sustainable production at protected areas. I took part in the community forest warden workshop and I now feel much better prepared thanks to project "

Josué da Costa da Silva, sustainable production technician, is a member of the deliberative board of the Médio Juruá Extractive Reserve and a volunteer environmental warden

" If we didn't have the ARPA Program, I'm sure the Chandless State Park wouldn't be here, it'd be just another paper park "

Jesus Souza, Manager of the Chandless State Park

" The legacy ARPA is going to leave behind is territory guaranteed for conservation "

Dionéia Ferreira, Manager of the Igapó-Açu Sustainable Development Reserve

18

References

[1] WWF and Funbio - The impact of the Arpa Program on the management effectiveness of Amazon Protected Areas

[2] Soares-Filho, Britaldo Silveira. Role of Amazon protected areas, especially the conservation units supported by ARPA, in reducing deforestation. Rio de Janeiro: Funbio, 2016.

[3] PRODES/INPE – Deforestation per PA http://www.dpi.inpe.br/prodesdigital/prodesuc.php